

REMARKS

Claims 1-102 are pending in this application. Claims 17 and 85 were objected to. Claims 1-16, 18-84, and 86-102 were rejected. To expedite prosecution, claims 1-102 have been cancelled and new claims 1 – 21 have been added.

Claims Objected To

Claims 17 and 85, were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims Rejections under 35 U.S.C. § 102(b)

Claims 1-4, 7-10, 12-18, 20-24, 36-38, 40-44, 46-52, 54-62, 64-66, 69-78, 80-84, 86, and 88-100 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,768,913 to Molnar (hereinafter "Molnar"). Applicants respectfully disagree for the reasons and explanations set forth below.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (Aug. 2001) (*quoting Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Id.* (*quoting Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1051, 1053 (Fed. Cir. 1987)). In addition, "the reference must be enabling and describe the applicant's invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention." *In re Paulsen*, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

Applicants respectfully submit that claims 1-4, 7-10, 12-18, 20-24, 36-38, 40-44, 46-52, 54-62, 64-66, 69-78, 80-84, 86, and 88-100 are not anticipated by Molnar for the reasons and explanations set forth below.

With respect to amended claim 1, Applicants respectfully submit that Molnar does teach or suggest all the limitations of claim 1. In particular, Molnar does not teach or suggest the following element of claim 1: "receiving and tracking a first signal using the first beam".

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Molnar discloses a method and apparatus for performing beam searching in a radio communications system. (Title) A base station uses a fixed beam phased array antenna which employs a first set of beams and associated hardware for conducting communication with a set of mobile terminals within a radio communications network, and employs a second set of beam and associated hardware for searching the radio communication cell for the presence of candidate beams which should be added to the first set of beams. (Col. 3, lines 45-53) The antenna may also be an adaptive phased array antenna. (Col. 4, line 32) The use of an adaptive beamforming processor allows the base station to selectively direct only the required number of beams toward the target terminals. (Col. 11, lines 44-46) Only one searcher beam is used, or at least a smaller subset of searcher beams is used. The single searcher beam is steered over a range of orientations. At each orientation, the base station measures the signal strength and/or quality of the searcher beam and from this information determines whether that orientation should be allocated a decoder beam. (Col. 11, lines 50-58) The decoder beams do not track the mobile station, rather, the mobile station moves from beam to beam. (Fig. 7)

Molnar does not disclose all the elements of Applicants' invention. Specifically, Molnar discloses a mobile station moving from beam to beam, and no tracking is performed. Therefore, Molnar does not disclose "receiving and tracking a first signal using the first beam" as disclosed in Applicants amended claim 1.

Because Molnar does not disclose all the limitations of amended claim 1, Applicants submit that amended claim 1 is not anticipated by Molnar.

Claims 2-4, 7-10, 12-18, 20-24, 26-38, 40-44, 46-52, 54-58, 60-62, 64-66, 69-72, 74-78, 80-84, 86, 88-92, 94-96, 98-100 are allowable for the same reasons given above for claim 1 and/or as depending either directly or indirectly from an allowable claim.

Claim Rejections under 35 U.S.C. § 103

Claims 5, 6, 11, 19, 39, 45, 52, 58, 63, 67, 73, 79, 87, 93, and 97 were rejected as being unpatentable over Molnar. This rejection is respectfully traversed.

To establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. "The teaching

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or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that a prima facie case of obviousness has not been established regarding claims 5, 6, 11, 19, 39, 45, 52, 58, 63, 67, 73, 79, 87, 93, and 97 because the prior art cited does not teach or suggest all the claim limitations. Specifically, the cited prior art does not disclose or suggest the limitation "receiving and tracking a first signal using the first beam" as found in Applicants' invention.

As noted above, Molnar discloses a mobile station moving between stationary beams in a multiple beam pattern. The complete discussion of Molnar as applied to claim 1 also applies here. Molnar makes no provision for "receiving and tracking a first signal using the first beam" because the beams are stationary.

Claims 6, 11, 19, 39, 45, 52, 58, 63, 67, 73, 79, 87, 93, and 97 are allowable for the same reasons given above for claim 5.

Furthermore, Applicants submit that the nonobviousness of independent claims 1, 18, 35, 64, 69, and 86 precludes a rejection of dependent claims 5, 6, 11, 19, 39, 45, 67, 73, 79, 87, 93, and 97 respectively depending therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. See *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), see also MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejections to dependent claims 5, 6, 11, 19, 39, 45, 67, 73, 79, 87, 93, and 97.

Claim Rejections under 35 U.S.C. § 103

Claims 63, 67, 68, 97, 101, and 102 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Molnar in view of U.S. Patent Publication US 2002/0034017 to Zhang (hereinafter "Zhang"). Applicants respectfully traverse this rejection.

To establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

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Applicants respectfully submit that a *prima facie* case of obviousness has not been established regarding claims 63, 67, 68, 97, 101, and 102 because the prior art cited does not teach or suggest all the claim limitations.

Specifically, neither Molnar nor Zhang discloses or suggests "receiving and tracking a first signal using the first beam". Zhang teaches a method for adaptively updating spreading and despreading weights in a wireless discrete multitone spread spectrum communications systems. (Abstract) The method includes the step of receiving at a base station a first spread signal comprising an incoming data signal spread over a plurality of discrete frequencies. The method continues by adaptively despreading the signal received at the base station by using first despreading weights. Then an error value for the first spread signal is computed. The error value is then compared with a threshold error value. Then, in accordance with the invention, the spreading weights and despreading weights for the base station are adaptively updated, depending on the error value. If the error value is less than the threshold error value, then the method maintains the first spreading weights as the current spreading weights at the base station to apply to an outgoing data signal. Alternately, if the error value is greater than the threshold error value, then the method adaptively calculates second despreading weights at the base station from the first spread signal and calculates second spreading weights as the current spreading weights as the current spreading weights from the second despreading weights to apply to the outgoing data signal. The method then continues by spreading the outgoing data signal at the base station with the current spreading weights, to distribute the outgoing data signal over a plurality of discrete tones, forming a second spread signal. The method concludes by transmitting the second spread signal. (par. 0009)

The Examiner cites Zhang as teaching "a correlator configured to de-spread a pilot signal" and cites paragraph 0049. Applicants have diligently studied the cited paragraph and are unable to find any mention of a correlator. The paragraph describes in detail how the threshold is used to adaptively modify the spreading/despreading weights. Even if the cited paragraph teaches a correlator, combining Molnar and Zhang does not result in Applicants' invention. As discussed above, Molnar teaches forming multiple stationary beams. Zhang would add an adaptive weighing factor to the multiple beams of Molnar. Molnar and Zhang neither separately nor in combination teach nor suggest

"receiving and tracking a first signal using the first beam". Therefore, Applicants respectfully request that the rejection of claims 63, 67, 68, 97, 101, and 102 be withdrawn.

Furthermore, Applicants submit that the nonobviousness of independent claims 64 and 86 precludes a rejection of dependent claims 67, 68, and 97 respectively depending therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. See In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), see also MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejections to dependent claims 67, 68, and 97.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants respectfully submit that all pending claims in the present invention are in a condition for allowance, which is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

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Respectfully submitted,

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